

G A N Z , S . N .

112-1-1419

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,  
Nr 1, p.215 (USSR)

AUTHOR: Ganz, S.N.

TITLE: Automatic Control of Centrifugation Operations  
(Avtomaticheskoye upravleniye protsessom tsentri-  
fugirovaniya)

PERIODICAL: Tr. Dnepropetr. khim.-tekhnol. in-t, 1955, Nr 4,  
pp.186-190

ABSTRACT: Bibliographic entry

Card 1/1

AID P - 2259

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 4/19

Authors : Ganz, S. N. and S. B. Kravchinskaya

Title : Rate of absorption of nitrogen oxides by solutions of  $\text{Ca(OH)}_2$  in mechanical absorption apparatus with a large number of revolutions.

Periodical: Zhur. prikl. khim., 28, no.2, 145-155, 1955

Abstract : The absorption was conducted in three types of apparatus the characteristics of which are presented in a table. The degree of absorption of nitrogen oxides increases markedly with increase in the number of revolutions. The calculations show a saving of 61.4% in energy when mechanical absorption apparatus are used. Four tables, 7 illustrations, 6 references (all Russian: 1949-1955).

Institution: Dnepropetrovsk Institute of Chemical Technology

Submitted : J1 20, 1953

Ganz, S. N.

Subject : USSR/Chemistry AID P - 3489

Card 1/1 Pub. 152 - 4/21

Authors : Ganz, S. N. and S. I. Kapturova

Title : Kinetics of formation of nitric acid in mechanical absorbers with a large number of revolutions

Periodical : Zhur. prikl. khim., 28, 6, 585-596, 1955

Abstract : In mechanical absorbers with a large number of revolutions the gas is thoroughly mixed with the liquid, and the oxidation of NO to NO<sub>2</sub> proceeds at a higher rate. Two tables, 13 diagrams, 12 references, all Russian (1900-1953).

Institution : None

Submitted : N 4, 1953

AID F - 3726

Subject : USSR/Chemistry

Card 1/2 Pub. 152 - 6/16

Authors : Ganz, S. N., M. A. Lokshin, and S. I. Kapturova

Title : ~~Determination of the coefficients of the absorption rate of nitrogen oxides by aqueous solutions of nitric acid in mechanical absorbers. Part II.~~

Periodical : Zhur. prikl. khim. 28, 8, 831-840, 1955

Abstract : The coefficient of the absorption rate is a function of peripheral speed of the discs, temperature, concentration of nitrogen oxides in the gas, and the concentration of **nitric acid**. By using the formulas given in the article, accurate rates are obtained for the following conditions: temperatures ranging from 10-70°C, nitric acid solutions of 5-40%, and nitrogen oxide concentrations of 1-9%. Seven tables, 5 diagrams, 18 references, 13 Russian (1934-1953).

AID F - 3726

• Zhur. prikl. khim. 28, 8, 831-840, 1955

Card 2/2 Pub. 152 - 6/16

Institution : None

Submitted : N 4, 1953

AID P - 3919

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 2/19

Author : Ganz, S. N.

Title : Mechanism of oxidation of nitric oxide and of formation of nitric acid under high-eddy conditions.

Periodical : Zhur. prikl. khim. 28, 10, 1037-48, 1955

Abstract : The effect of various factors on the oxidation of nitric oxide is discussed, namely: eddy, concentration of NO in the gas, solubility of oxygen, concentration of nitric acid, surface of the phase contact. The oxidation of nitric oxide is a heterogeneous-homogeneous process. The greater the surface of the phase contact, the greater is the rate of oxidation of NO. Five tables, 4 diagrams, 24 references, 13 Russian (1901-55).

Institution : None

Submitted : D 10, 1953

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GANZ, S.N.

Absorption kinetics of nitrogen oxides by sulfuric acid in  
rotating absorbers with high rpm. Zhur.prikl.khim. 29 no.7:  
1018-1028 J1 '57. (MIRA 10:10)  
(Absorption) (Nitrogen oxides) (Sulfuric acid)

GANZ, S.N.

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Kinetics of film absorption of nitric oxide by ferrous sul-  
phate S. N. Ganz and L. I. Mamon (Chem. Technol. Inst.  
Dnepropetrovsk). Zhur. Prikl. Khim. 36, 309-70 (1957);  
C. A. 48, 1956. — The rate of absorption  $q$ , kg./sq. m. hr.,  
of NO by solns. of  $FeSO_4$  was detd. (a) by passing a current  
of gas over a stationary surface (50 sq. cm.) with the soln.  
stirred below the surface and (b) in a packed tower. In  
method a with NO from 0.7 to 13.6% the value of  $q$  in  
20.5%  $FeSO_4$  at 20° was proportional to the partial pres-  
sure  $P$  of NO. The same was true with a gas contg. from  
2.2 to 12% NO in a soln. of 4.0-20%  $FeSO_4$ . The over-all  
coeff. of absorption  $K$  was const. ( $= q/AP$ ) at 0.5 kg./sq.  
m. hr. atm. However, in a series of expts. with solns. contg.  
from 5.8 to 20.5%  $FeSO_4$  the linearity between  $q$  and  $P$  held  
only up to specific relations: up to 5%  $FeSO_4$  for an 8%  
gas, 9.7%  $FeSO_4$  for a 16% gas, and 20.5%  $FeSO_4$  for a 14%  
gas. Beyond the point of linearity the relation  $q = K$   
( $q/P$ ) held (cf. Pozin, C.A. 42, 4426c). The process was  
accompanied by a chem. reaction and its rate was controlled  
by diffusional kinetics. In method c the absorption of a 1%  
NO gas in a packed tower by a 20%  $FeSO_4$  soln. was inter-  
preted on the assumption that the over-all coeff. of absorp-  
tion  $K$ , could be calcd. from Nusselt's criteria  $Nu =$   
 $CR_0^{1/2} Pr^{1/3} G^{1/4}$ . Since  $Pr$  and  $G$  under the exptl. conditions  
were const. and  $C = 0.5 K$ ,  $as C_1 Re^{0.5} = 4.5 \times 10^{-4}$ . The  
function  $Nu$ , vs.  $\log Re$ , was a straight line expressed by  
 $Nu = 0.00074 Re^{0.5} Pr^{1/3} G^{1/4}$ . Cf. C.A. 51, 13531d

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GANZ, S. N.

Kinetics of absorption of nitric oxide by solutions of ferric sulfate in a mechanical absorber with a high number of revolutions. S. N. Ganz and L. I. Mamon. Zhur. Priklad. Khim. 30, 369-61 (1957); cf. ibid 369-79. The rate of absorption  $q$  of NO by aq. solns. of  $\text{FeSO}_4$  in a revolving absorber similar to that described previously (CA, 50, 344) was studied. The over-all coeff. of absorption  $K_a$  was a function of the r.p.m.,  $n$ , or the peripheral velocity  $v_s$  of the disks up to a crit. value of  $n = 3000$  r.p.m. or  $v_s = 0.5$  m./sec. at which point  $K_a$  passed through a max. and then decreased (max.  $K_a = 1050$  kg./cu. m. hr. atm.). The decrease was attributed to the centrifugal force or to the destruction of the structure of the foam at high velocities. Up to the crit. value of  $v_s$ ,  $\log K_a$  vs.  $v_s$  was a linear function expressed by  $K_a = 276v_s^{0.43}$ , and  $K_a$  was independent of the partial pressure  $P$  of NO and the concn.

of  $\text{FeSO}_4$ ,  $q$  was proportional to  $P$ , so that  $q = K_a P v_s$ . Let  $K_a$  was a linear function of the vol. velocity of the gas up to  $n \sim 1000$  cu. m./cu. m. hr. In the range of linearity  $K_a = A v_s^{0.43}$ ; the values of  $A$  for  $v_s$  2.05, 5.28, and 10.25 m./sec. were 2.57, 5.3, and 3.89, resp. I. B.

pm. fra 1956

*Ganz, S. N.*

Intensification of the process of oxidation of nitric oxide  
 in a highly turbulent condition. S. N. Ganz (Chem.  
 Technol. Inst., Dnepropetrovsk). *Zhur. Prikl. Khim.*  
 30, 680-87 (1957); *Ch. U.A.* 40, 344, 1956. — The rate of  
 oxidation  $\alpha$  of NO in a revolving absorber is greater than  
 the theoretical, calcd. on the assumption of a 3rd-order  
 reaction. This was more quantitatively confirmed by the  
 following expts.: NO diss. to 20% with N was added to  
 air at the entrance of the absorber so that the time of contact  
 was well-defined. The gas velocity was kept const. at  
 350-400 cu.m./cu.m.hr.; at this rate NO<sub>2</sub> was completely  
 absorbed in a 2% soln. of KI. At 23-24° with KI soln. as  
 an absorption medium and the absorber revolving at 300,  
 1600, 2200, and 3000 r.p.m.,  $\alpha$ , the corresponding values of  
 $\alpha$  were 38.8, 39, 42.5, and 53%, resp.; the theoretical =  
 33%. With distd. H<sub>2</sub>O as the absorption medium the  
 degree of conversion  $x_2$  to HNO<sub>2</sub> + HNO<sub>3</sub> and  $x_1$  to HNO<sub>3</sub>  
 were linear functions,  $x_2 = 0.0133n + 16$  and  $x_1 = 0.001n$   
 $+ 15.5$ . At the resp. values of  $n$  the values of  $x_2$  were 19.9,  
 36.1, 42.5, and 64%, of which the proportion of  $x_2'$  was  
 72.6, 60, 40.2, and 34.2%, resp. The rate of conversion  
 to HNO<sub>3</sub> increased more rapidly than that to HNO<sub>2</sub>, be-  
 cause of the reaction  $3\text{HNO}_2 \rightarrow \text{HNO}_3 + 2\text{NO} + \text{H}_2\text{O}$ .  
 The initial high value of  $x_2$  was due to the absorption  
 $(\text{NO}, \text{NO}_2) + \text{H}_2\text{O} \rightarrow 2\text{HNO}_2$ . From the above values of  
 $x_2$  and  $x_1$ ,  $\alpha = 0.01635n + 10$  increasing from 19.9 at  
 $n = 300$  to 84% at  $n = 3000$ ; theoretical  $\alpha = 28\%$ . With  
 a 2% soln. of  $\text{Ca}(\text{OH})_2$  as the absorption medium the in-  
 crease of  $x_2$  with  $n$  was not linear. At  $n = 400$  the amt. of  
 $\text{Ca}(\text{NO}_2)_2$  formed was equal to the theoretical (28%).  
 $x_2'$  increased less rapidly than did  $x_2$  and at  $n = 1300-1500$   
 the reaction was represented by  $4\text{NO}_2 + 2\text{Ca}(\text{OH})_2 \rightarrow$   
 $\text{Ca}(\text{NO}_2)_2 + \text{Ca}(\text{NO}_3)_2 + 2\text{H}_2\text{O}$ . Above  $n = 3200-4000$   
 the reaction became stabilized and  $d\alpha/dn$  approached zero.  
 I. Bencowitz

*I. Dnepropetrovskiy Khimiko-Tekhnologicheskii Inst.*

GANZ, S. N.

Effect of hydrodynamic condition on the rate of absorption of nitrogen oxides by solutions of calcium hydroxide in a mechanical absorber on a semiplant scale. I. S. Y.

Ganz (Chem. Technol. Inst., Dnepropetrovsk), *Zhur. Priklad. Khim.* 30, 1311-20 (1957); cf. C.A. 49, 6063a. — The study made previously with a lab. unit was extended to a unit 0.88 m. diam., 1.61 m. long, and 1 cu.m. capacity with 4 perforated disks with 14 spatelike bends in each. With a gas velocity  $w$  of 400 cu.m./cu.m. of absorber/hr. through a soln. contg. nitrites X nitrates 10-20, CaO 70-80 g./l., the degree of absorption  $\alpha$  at 60-70° increased with the peripheral velocity  $v_p$  rather rapidly at first but at decreasing rates so that at  $v_p = 22-23$  m./sec.  $d\alpha/dv_p$  was small and at  $v_p = 27-28$  m./sec. approached zero. In the range of initial gas concn.  $x_1$  from 0.14 to 4% (NO-NO<sub>2</sub>),  $\alpha$  increased with  $x_1$ ; even with a dil. gas, 0.14-0.3%,  $\alpha = 70-75\%$ , which was higher than could be obtained in a packed tower. By means of the method described previously (C.A. 50, 3357b), equations were found for the coeff. of absorption  $K = f(x_1, v_p)$  in the  $v_p$  range of 14-30 m./sec. The generalized form of the equation was  $K = m\sqrt{v_p} + n$ . From a series of simultaneous equations of 2 points on each curve of the functions  $m(x_1) = f(x_1)$ , the following empirical relation was obtained  $K_p = (1400 - 241x_1^{-1})v_p^{0.25} + (500x_1^{-1} - 2030)$ .  $K = f(w)$  was empirically expressed by  $K = aw + b$  with values of 1.9 and 2.3 for the consts.  $a$  and  $b$ , resp. The calcd. values of  $K$  agreed with the expil. values within 1.5%.  $\alpha$  increased linearly with the vol. of liquor in the absorber or the ratio  $V$  of vol. of liquor/vol. absorber. At  $V = 0.19-0.21$   $\alpha$  passed through a max. and decreased. Best results were obtained with 4 disks spaced 0.6-0.7 disk diams. with 14-10 spatelike bent at 15-17°.

I. Benecourt

S. N. Ganz

GANZ, S. N.

✓ Effect of basic physicochemical factors on the rate of absorption of nitrogen oxides by solutions of  $\text{Ca}(\text{OH})_2$  in a rapidly revolving absorber. II. S. N. Ganz and M. A. Lokshin (Chem. Technol. Inst., Dnepropetrovsk). *Zhur.*

*Prilad. Khim.* 30, 1825-25(1957); cf. C.A. 52, 2473a. — The degree of absorption  $\alpha$  of  $\text{NO} + \text{NO}_2$  by solns. of  $\text{Ca}(\text{OH})_2$  in a revolving absorber (loc. cit.) decreased as the concn.  $C$  of  $\text{Ca}(\text{NO}_3)_2 + \text{Ca}(\text{NO}_2)_2$  increased. Empirically, the coeff. of absorption  $K_a = mC^n$ , kg./cu. m. hr. atm. For initial concns.  $x$  of  $\text{NO} + \text{NO}_2$  (60% of  $\text{NO}$  oxidized) from 0.475 to 2.125%,  $\text{CaO}$  concns. from 3 to 5 g./l., peripheral velocity  $V_p$  of 23 m./sec., gas velocity  $w$  of 400 cu. m./cu. m. hr. at 60-70°,  $m = 4400x + 400$  and  $n = -(0.13x + 0.24)$ . The calcd.  $K_a$  agreed with the exptl. values within  $\pm 2-3\%$ . The effect of the degree of oxidation of  $\text{NO}$  to  $\text{NO}_2$ ,  $q$ , on  $\alpha$  was detd. at 30-45° with solns. contg.  $\text{CaO}$  4-8 g./l.,  $C = 200-60$  g./l., at  $V_p = 23$ , and  $w = 300-20$ . With  $x = 3.2\%$ ,  $\alpha$  increased from 69.8 to 82.1% as  $q$  increased from 30 to 70%; the  $\text{N}$  oxide content in the exit gases decreased from 0.371 to 0.258%. With  $x = 0.6\%$ ,  $\alpha$  increased from 63 to 73.2% as  $q$  increased from 32 to 69% and the concn. of  $\text{N}$  oxides in the exit gases decreased from 0.228 to 0.172%. The kinetics of the reaction was studied by the change in  $C$  of the partially recirculated soln. The results indicated that in a revolving absorber the rate of absorption of  $\text{N}_2\text{O}_5$  and  $\text{NO}_2$  were practically equal; this is attributed to the reactions  $\text{N}_2\text{O}_5 + \text{Ca}(\text{OH})_2 = \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$  and  $\text{Ca}(\text{NO}_3)_2 + 2\text{NO}_2 = \text{Ca}(\text{NO}_3)_2 + 2\text{NO}$ .

I. Bencowitz //

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Ganz. S. N.

Distr: 424

Generalized principles of absorption processes in a rapidly revolving absorber. S. N. Ganz (Chem. Technol. Inst., Dnepropetrovsk). *Zhur. Priklad. Khim.* 30, 1694-17 (1987); cf. *C.A.* 52, 51031. — Empirical relations previously obtained with rapidly revolving absorbers are reexamined. The plots of the rate of absorption  $\alpha$  vs. the peripheral velocity  $V$  pass through flat max. beyond which  $\alpha$  decreases at first and then tends to become parallel to the  $V$  axis, i.e.  $\alpha$  becomes independent of  $V$ . In the initial range of  $V_0 - V_1$  ( $V_1 = 1-5$  m./sec.),  $\alpha$  is a function of the gas and absorbent concns. In the range  $V_1 - V_2$ ,  $\alpha$  rises very rapidly and the process is controlled primarily by the soly. of the gases in the absorbent. In the  $V_2 - V_3$  range (max.  $\alpha$ ), the turbulence of the soln. as well as that of the gas is the controlling factor. As  $V$  increases to  $V_4$  and beyond, the droplets begin to coalesce, the foam breaks, and the liquid is held centrifugally against the revolving cylinder. The  $\alpha$  vs.  $V$  curves are similar to the power function of a similar revolving cylinder, so that up to the max. the coeff. of absorption is a function of the power requirement. Most economical results are obtained with a linear gas velocity of 0.7-2.5 m./sec., a length to diam. ratio of 2.2-5, and a liquid vol. of not more than 20-25% of the absorber vol. Addnl. specifications were given previously (*loc. cit.*). L.B.

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GANZ, S. N.: Doc Tech Sci (diss) -- "Investigation of the kinetics of absorption of the oxides of nitrogen by solution of  $\text{HNO}_3$ ,  $\text{H}_2\text{SO}_4$ ,  $\text{Ca}(\text{OH})_2$ , and  $\text{FeSO}_4$  in mechanical absorbers with high rotary speeds". Leningrad-Dnepropetrovsk, 1958. 21 pp (Min Higher Educ USSR, Leningrad Order of Labor Red Banner Technological Inst in Leningrad Soviet) 200 copies (KL, No 1, 1959, 118)

GANZ, S.N.

Absorption of nitrogen oxides with solid absorbents. Zhur. prikl.  
khim. 31 no.1:138-140 Ja '58. (MIRA 11:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Absorption) (Nitrogen oxides)

GANZ, S.N.; LOKSHIN, M.A.

Making the coke-oven gas purification from hydrogen sulfide by high revolution rotary absorbent more efficient. Zhur. prikl. khim. 31 no.2:191-197 F '58. (MIRA 11:5)

1. Dnepropetrovskiy khimiko-tekhnologicheskoy institut imeni F.M. Dzerzhinskogo.  
(Coke-oven gas) (Hydrogen sulfide) (Absorption)



GANZ, S.H.

Adsorption of nitrogen oxides by aluminum silicate sorbents.  
Zhur.prikl. khim. 31 no.3:360-368 Mr '58. (MIRA 11:4)

1.Dnepropetrovskiy khimiko-tekhnologicheskoy institut.  
(Adsorption) (Nitrogen oxides) (Aluminum silicate)

AUTHORS: Lokshin, M.A. and Ganz, S.N. SOV/68-59-1-10/26

TITLE: Intensification of the Process of Regeneration of a Sodium-arsenical Solution Under Highly Turbulent Conditions (Intensifikatsiya protsessa regeneratsii mysh'yakovo-sodovogo rastvora v usloviyakh vysokoturbulentnogo rezhima)

PERIODICAL: Koks i Khimiya, 1959, Nr 1, pp 37 - 41 (USSR)

ABSTRACT: The influence of the degree of turbulency of the system on the velocity of regeneration of the absorption solution ( $2\text{Na}_3\text{AsS}_4 + \text{O}_2 = 2\text{Na}_2\text{AsS}_3\text{O} + 2\text{S}$ ) was investigated. The investigation was carried out on a large-scale laboratory installation (Figure 1). The reaction was carried out in a rotational regenerator with propeller discs set on a shaft (in Figure 1). The influence of the peripheral velocity of the discs on the velocity regeneration was carried out under the following standard conditions: volume velocity of air ( $w$ )  $100 \text{ m}^3/\text{m}^3$  of the volume of regenerator per hour, pH 7.5,  $\text{As}_2\text{O}_3$  15.09 g/litre,  $\text{Na}_2\text{CO}_3$  15.64 g/litre,  $t = 30^\circ \text{C}$ .  
The volume of the liquid in the regenerator amounted to

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Intensification of the Process of Regeneration of a Sodium-  
arsenical Solution Under Highly Turbulent Conditions

SOV/68-59-1-10/26

35% of the volume of the apparatus. Two series of experiments were made with regeneration time of 3 and 5 min. In each series the number of revolutions of the shaft varied from 0 to 1 400 rpm which corresponded to the variation in the peripheral velocity of discs ( $V_d$ ) from 0 to 6 m/sec. The results are shown in Figure 2. The influence of the time of regeneration, i.e. contact time between liquid and gaseous phases was additionally tested at  $V_d = 5.15$  m/sec (1 200 rpm),  $t = 48^\circ\text{C}$ ,  $\text{pH} = 7.3$  and  $W = 100-110 \text{ m}^3/\text{m}^3 \text{ hour}$  using air and oxygen. It was found that in comparison with present industrial regeneration velocity, the process can be speeded up 12.5 - 20 times when using air and 33.4 - 53.4 times when using oxygen (Figure 3). The influence of the volume velocity of air was tested under the following conditions:  $V_d = 5.15$  m/sec (1 200 rpm),  $t = 48^\circ\text{C}$ ,  $\text{pH} = 7.3$ , regeneration time ( $\tau$ ) 5 minutes. The results (Figure 4) indicate that the highest degree of regeneration is obtained at  $W = 200-250 \text{ m}^3/\text{m}^3 \text{ hour}$ . The influence of the reaction temperature was tested under the following

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Intensification of the Process of Regeneration of a Sodium-arsenical Solution Under Highly Turbulent Conditions

conditions:  $V_d = 5.15$  m/sec (1 200 rpm),  $W = 200$  m<sup>3</sup>/m<sup>3</sup> hour, pH = 7.3,  $\tau = 5$  minutes. The temperature range 20-60 °C was studied. The results obtained (Figure 5) indicated that the highest rate of regeneration is obtained at 48 - 55 °C. In addition, the influence of the degree of turbulency on the side reaction of formation of Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> was tested. The results (Figure 6) indicated that there is no relationship; the amount of thiosulphate formed remained constant. It is concluded that an intensive increase in the degree of turbulence in the regeneration system sharply increases the velocity of the regeneration, due to which capital expenditure on the plant and consumption of electric power for its operation can be considerably decreased. There are 6 figures.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskii institut  
(Dnepropetrovsk Chemico-technological Institute)

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5(1)

AUTHORS:

Ganz, S. N., Lokshin, M. A.

SOV/153-2-4-31/32

TITLE:

A Critical Equation of the Mass Exchange in Horizontal Mechanical Absorbers

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 4, pp 636-641 (USSR)

ABSTRACT:

The mass-exchange processes take place under highly turbulent conditions under the effect of numerous physicochemical and hydrodynamic factors. The use of the similarity method proved to be most convenient in the investigation of the combined effect of these factors on the process rate (Refs 5-8). The authors investigated the kinetics of the processes mentioned in horizontal mechanical mono- and polysection absorbers (Refs 1-4). Equation (1), and this functional dependence, respectively, determine the rate of the exchange mentioned in these apparatus. The required functional dependence of the Kirpichev diffusion criterion on the determining factors is expressed by equation (2). This critical equation sufficiently describes the adsorption process in mechanical absorbers with a high number of revolutions. There are 5 figures, 1 table, and 10 Soviet references.

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A Critical Equation of the Mass Exchange in Horizontal Mechanical Absorbers

SOV/153-2-4-31/32

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskii institut; Kafedra  
oborudovaniya khimicheskikh zavodov  
(Dnepropetrovsk Institute of Chemical Technology; Chair  
of Machinery for Chemical Factories)

SUBMITTED: June 28, 1958

Card 2/2

GANZ, S.N.; VILESOV, G.I.; LOPATIN, L.V.

Carbon ammoniates, a new type of economical fertilizers. Izv.vys.  
ucheb.zav.; khim.i khim.tekh. 2 no.6:913-915 '59. (MIRA 13:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut. Kafedra  
oborudovaniya khimicheskikh zavodov.  
(Ammines) (Fertilizers and manures)

5(2)

SOV/80-32-5-6/52

AUTHORS:

Ganz, S.N., Vilesov, G.I., Gorkman, S.I., Leybovich, S.B.

TITLE:

The Combination of the Purification Process of a Nitrogen-Hydrogen Mixture From  $\text{CO}_2$  With the Preparation of Ammonium Carbonates. Communication I.

PERIODICAL:

Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 969-975 (USSR)

ABSTRACT:

The separate and combined absorption of  $\text{NH}_3$  and  $\text{CO}_2$  depending on the physical-chemical and hydrodynamic conditions of the process is investigated here. For this purpose horizontal rotary absorbers with high rpm were used [Refs 1-4]. At a temperature of 17-18°C and a pressure of 749 mm Hg, the absorption reaches 100% at 250 rpm. If the  $\text{NH}_3$  supply is more than 500  $\text{m}^3$  per  $\text{m}^3$  of absorbent · hr, the revolutions must be increased to 850-900 per min. Under highly turbulent conditions the productivity of the apparatus is 40-41 times greater than that of packed columns. The absorption of  $\text{CO}_2$  by ammonia water at 18°C and a supply of 500  $\text{m}^3/\text{m}^3 \cdot \text{hr}$  at a  $\text{CO}_2$  content of 11.8% in the gas reaches its maximum of 98.5% at 2,000 rpm. An increase of the supply rate reduces the degree of absorption. A maximum of absorption is reached at a  $\text{CO}_2$  content of 11% in the gas. The highest

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SOV/80-32-5-6/52

The Combination of the Purification Process of a Nitrogen-Hydrogen Mixture From  $\text{CO}_2$  With the Preparation of Ammonium Carbonates. Communication I.

rate of the process can be attained at a stoichiometric  $\text{NH}_3:\text{CO}_2$  ratio 1:1. The combined absorption of  $\text{NH}_3$  and  $\text{CO}_2$  differs only slightly from the separate absorption. The degree of absorption decreases with the increase of the ammonium carbonate concentration in the solution, which is explained by the higher viscosity of the solution and the higher vapor pressure of  $\text{NH}_3$  and  $\text{CO}_2$ . An excess of ammonia shows the most favorable results in this case. There are: 1 diagram, 10 graphs and 4 Soviet references.

SUBMITTED: September 12, 1957

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5(2)

SOV/80-32-5-7/52

AUTHORS: Ganz, S.N., Leybovich, S.B., Gorbman, S.I.

TITLE: The Investigation of the Rate of Conversion of  $\text{CaSO}_4$  to  $(\text{NH}_4)_2\text{SO}_4$  in Combining This Process With the Absorption of  $\text{NH}_3$  and  $\text{CO}_2$  Under Highly Turbulent Conditions. Communication II.

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 975-978 (USSR)

ABSTRACT: A rational method of purifying a nitrogen-hydrogen mixture from  $\text{CO}_2$  is the combination of this process with the conversion of  $\text{CaSO}_4$  to ammonium sulfate. Horizontal rotary apparatuses were used, in which intensive mixing of the gaseous and liquid phases increases the reaction rate. To a 116 g/l solution of  $(\text{NH}_4)_2\text{SO}_4$  a finely ground powder of  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$  in the amount of 100 g was added. The conversion of gypsum attains 90-94% in a three-minute contact of the two phases at 400-500 rpm. For the absorption of  $\text{CO}_2$  the gypsum suspension in the apparatus was saturated with ammonia to 8.4%  $\text{NH}_3$ . At 1,200 rpm, 27.5 - 28°C, 750 mm Hg, a gypsum content of 126 g/l<sup>3</sup> and a  $\text{CO}_2$  content of 10.6% in the gas, the absorption of  $\text{CO}_2$  comes to an end in the 12th minute due to the complete consumption of gypsum and  $\text{NH}_3$ , if the supply rate is 250 m<sup>3</sup>/m<sup>3</sup>.hr. The absorption

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SOV/80-32-5-7/52

The Investigation of the Rate of Conversion of  $\text{CaSO}_4$  to  $(\text{NH}_4)_2\text{SO}_4$  in Combining This Process With the Absorption of  $\text{NH}_3$  and  $\text{CO}_2$  Under Highly Turbulent Conditions. Communication II.

rate is increased with the supply rate. The concentrations of 64 g/l  $\text{CaSO}_4$  and 57 g/l  $(\text{NH}_4)_2\text{SO}_3$  ensure a maximum of the reaction rate. The optimum temperature lies between 28 and 38°C. There are: 3 graphs and 7 Soviet references.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskii institut (Dnepropetrovsk Chemical-Technological Institute)

SUBMITTED: September 12, 1957

Card 2/2

5.1105

75664

SOV/80-32-10-13/51

AUTHORS: Ganz, S. N., Leybovich, S. B., Malyshevich, N. A.,  
Lokshin, M. A.

TITLE: Investigation of the Rate of CO<sub>2</sub> Absorption by a  
Monoethanolamine Solution in a Horizontal Mechanical  
Absorber

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10 .  
pp 2207-2210 (USSR)

ABSTRACT: This is a study of the dependence of the rate (R)  
of absorption and of the percentage of CO<sub>2</sub> absorbed  
(w) on the following factors: blade shaft rpm (n),  
gas volume flow rate (W), % CO<sub>2</sub> in gas (C<sub>g</sub>), tem-  
perature(T), % monoethanolamine in the solution (C<sub>L</sub>), and  
degrees of monoethanolamine saturation. Absorption  
rates were increased by use of horizontal high-rpm  
mechanical absorbers described earlier (Ganz, S. N.,  
ZhPKh, 30, 1604 (1957)). (1) Effect of shaft rpm.

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Investigation of the Rate of CO<sub>2</sub> Absorption by  
A Monoethanolamine Solution in a Horizontal  
Mechanical Absorber

75664  
SOV/80-32-10-13/51

Conditions:  $W$ , 400 m<sup>3</sup>/m<sup>2</sup> x hr;  $C_g$ , 20.3%; 32°;  
752 mm Hg;  $C_L$ , 30%. Result: 100% absorption at  
 $n = 500$  rpm (circumferential speed ( $v$ ) = 2 m/sec);  
at  $n > 120$  rpm,  $w$  and  $R$  decrease smoothly. The  
effect of the gas volume flow rate is shown in Fig.  
1. Figs. 2 and 3 show the effect of CO<sub>2</sub> concentration  
at  $W = 400$  m<sup>3</sup>/m<sup>2</sup> x hr;  $n = 500$  rpm; 31-32°;  $C_g =$   
30%; 758 mm Hg. Fig. 4 shows the effect of tem-  
perature. The influence of monoethanolamine concentra-  
tion and saturation is shown in Figs. 5 and 6, re-  
spectively; at  $C_L < 10\%$ ,  $w < 90\%$  owing to the low  
reaction rate under these conditions. Taking into account  
monoethanolamine losses by entrainment, optimum  
 $C_L = 30-35\%$ . Fig. 7 shows the superiority of mono-  
ethanolamine over 20% potash solution. There are  
7 figures; and 7 Soviet references.

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Investigation of the Rate of  $\text{CO}_2$  Absorption by  
a Monoethanolamine Solution in a Horizontal  
Mechanical Absorber

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SOV/80-32-10-13/51

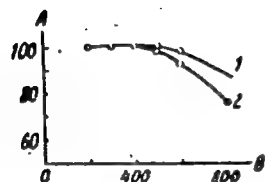


Fig. 1.  $w$  vs  $W$ : (A)  $w$  (%); (B)  
 $W$  ( $\text{m}^3/\text{m}^3 \times \text{hr}$ );  $n$  (rpm): (1)  
800 to 900; (2) 500;  $T$ ,  $31^\circ$ ,  
 $C_g$ , 19.4%.

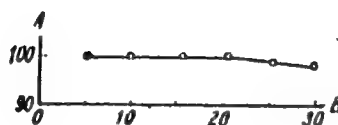


Fig. 2.  $w$  vs  $C_g$ : (A)  $w$  (%);  
(B)  $C_g$  (%).

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Investigation of the Rate of  $\text{CO}_2$  Absorption  
in Monoethanolamine Solution in a Horizontal  
Mechanical Absorber

75664

SOV/80-32-10-13/51

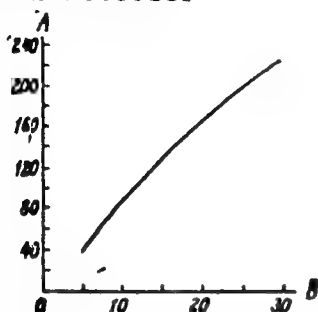


Fig. 3.  $R$  vs  $C_g$ : (A)  $R$   
( $\text{kg}/\text{m}^3 \times \text{hr}$ ); (B)  $C_g$  (%).

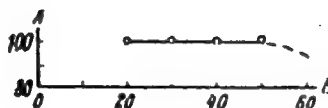


Fig. 4.  $w$  vs sorbent tem-  
perature ( $T$ ): (A)  $w$  (%);  
(B)  $T$ ;  $P = 754 \text{ mm Hg}$ ,  $W = 400$   
 $\text{m}^3/\text{m}^3 \times \text{hr}$ ,  $n = 500 \text{ rpm}$ ,  $C_L$   
 $= 30\%$ ,  $C_g = 18\%$ .

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Investigation of the Rate of  $\text{CO}_2$  Absorption by  
a Monoethanolamine Solution in a Horizontal  
Mechanical Absorber

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SOV/80-32-10-13/51

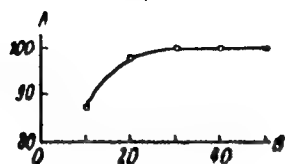


Fig. 5.  $w$  vs  $C_L$ : (A)  $w$  (%);  
(B)  $C_L$  (%);  $w = 400 \text{ m}^3/\text{m}^3 \times$   
hr,  $n = 500 \text{ rpm}$ ,  $T = 37^\circ$ ,  
 $C_g = 18.9\%$ .

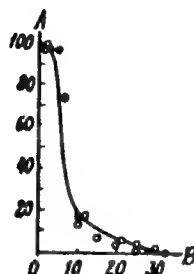


Fig. 6.  $w$  vs test duration:  
(A)  $w$  (%); (B) test duration  
(min); initial  $C_L = 30\%$ ,  $C_g$   
 $= 19\%$ ,  $n = 800 \text{ rpm}$ ,  $T = 22^\circ$ ,  
 $W = 600 \text{ m}^3/\text{m}^3 \times \text{hr}$ .

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Investigation of the Rate of  $\text{CO}_2$  Absorption by  
 Monoethanolamine Solution in a Horizontal  
 Mechanical Absorber

75664

SOV/80-32-10-13/51

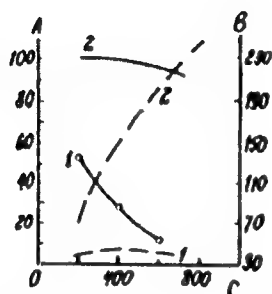


Fig. 7.  $w$ , and rate of absorption by potash solution ( $R_p$ ) and by monoethanolamine ( $R$ ) vs  $W$ : (A)  $w$  (%); (B)  $R$  and  $R_p$  ( $\text{kg}/\text{m}^3 \times \text{hr}$ ); (C)  $W$  ( $\text{m}^3/\text{m}^3 \times \text{hr}$ ); Solid line  $w$ ; dotted line:  $R$  and  $R_p$ ; (1) potash, (2) monoethanolamine.

ASSOCIATION: Dnepropetrovsk Chemical Engineering Institute (Dnepropetrovskiy Khimiko-tekhnologicheskii institut)

SUBMITTED: September 25, 1953

Card 6/6

GANZ, Semen Naumovich; Prinyali uchastiye: NEDOBACH, G.G.; TOPTUNENKO, Ye.T.;  
LEYBOVICH, S.B.; BRAGINSKAYA, R.I.; DAL', V.I., doktor tekhn. nauk, prf.,  
red.; NESTERENKO, A.S., red.; PLETENITSKIY, V.Yu., tekhn. red.

[Technological processes and equipment of the synthesis gas and  
fixed nitrogen industries] Tekhnologicheskie protsessy i oborudo-  
vanie proizvodstv sintez-gaza i svyazannogo azota. Pod red. V.I.  
Dal'ia. Khar'kov, Izd-vo Khar'kovskogo gos. univ., im. A.M.Gor'kogo,  
1960. 550 p. (MIRA 14:8)  
(Gas manufacture and works) (Nitrogen)

GANZ, S.N.

Efficient design of hollow towers in the manufacture of nitric  
acid. Trudy DKHTI no.10:51-59 '60. (MIRA 14:1)  
(Nitric acid)  
(Chemical engineering—Apparatus and supplies)

GANZ, S.N.

Automatic instrument for the continuous determination of nitrogen  
oxides in nitrose and in the gas and nitric acid of the mixture.  
Trudy DKHTI no.10:131-137 '60. (MIRA 14:1)  
(Nitrogen acid)

GANZ, S.N.

Comparison of technological and economic indices of modern high-  
efficiency units for the absorption of nitrogen oxides. Trudy  
DKHTI no.10:139-146 '60. (MIRA 14:1)

(Nitrogen oxide)

KUZNETSOV, I.Yes; GANZ, S.N.

Improved design of a skip elevator. Koks i khim. no.12:30-31 '60.  
(MIRA 13:12)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Hoisting machinery)

GANZ, S.N.

Continuous method for producing ammonium carbonates. Zhur. prikl.  
khim. 33 no.6:1251-1257 Ja '60. (MIRA 13:8)  
(Ammonium carbonate)

GANZ, Semen Naumovich; KUZNETSOV, Ivan Yefimovich; PREDTECHENSKAYA, N.  
[Predtechens'ka, N.], red.; SICHUGOV, V. [Sychuhov, V.], tekhn.  
red.

[Furnaces for the chemical industry] Vypaliuval'ni pechi khimichnoi  
promyslovosti. Kyiv, Derzh. vyd-vo tekhn. lit-ry URSR, 1961. 217 p.  
(MIRA 14:10)

(Furnaces)



GANZ, S.N., kand.tekhn.nauk; KHOKHLOV, S.F., inzh.

Determination of the ~~dimensions~~ of centrifugal hollow towers with  
mutiple-diak sprayers. Khim.mash. no.2:31-33 Mr-Apr '61.

(MIRA 14:3)

(Chemical engineering—Equipment and supplies)  
(Absorption)

GANZ, S.N.

Increasing the absorption of nitrogen oxides from exhaust  
gases by alkaline solutions. Izv.vys.ucheb.zav.; khim.i khim.tekh.  
4 no.6:998-1002 '61. (MIRA 15:3)

1. Dnepropetrovskiy khimiko-tehnologicheskii institut imeni  
Dzerzhinskogo, kafedra tekhnologii neorganicheskikh veshchestv.  
(Nitrogen oxides) (Absorption)

GANZ, S.N.; BRAGINSKAYA, R.I.; GORODETSKIY, N.I.; LOKSHIN, M.A.  
Prinimali uchastiye: SLASHCHEVA, V.M.; MOLCHANOV, V.A.;  
OVCHARENKO, B.G.

Absorption of nitrogen oxides by milk of lime in mechanical  
absorbers of a pilot plant. Izv.vys.ucheb.zav.; khim.i khim.  
tekh. 5 no.1:155-159 '62. (MIRA 15:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut imeni  
F.E.Dzerzhinskogo, kafedra tekhnologii neorganicheskikh veshchestv.  
(Nitrogen oxides) (Lime)

GANZ, S.N.

Removal of dust from industrial waste gases in multiple disk rotary separators. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5 no.2: 326-330 '62. (MIRA 15:8)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut imeni F.E.Dzerzhinskogo, kafedra tekhnologii neorganicheskikh veshchestv. (Dust collectors)

GANZ, S. N.

New types of nitrogen fertilizers. Zemledelie 24 no.9:39-40  
S '62. (MIRA 15:10)

1. Dnepropetrovskiy khimiko-tehnologicheskoy institut.

(Nitrogen fertilizers)

L 31814-65 -- EPA(s)-2/EWT(m)/EPF(o)/EWP(v)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 WW/RM  
 ACCESSION NR AM2044431 BOOK EXPLOITATION S/ 63  
 61  
 841

Genz, Semen Naumovich; Yemel'yanov, Miney Stepanovich; Parkhomenko Vladimir  
 Dmitriyevich

15  
 Plastics in instrument manufacture (Plastmassy v apparatostroyenii), Kharkov,  
 Izd-vo Khar'kovskogo univ., 1963, 198 p. illus., biblio. Errata slip  
 inserted. 7,000 copies printed.

TOPIC TAGS: polyethylene, polyisobutylene, polystyrene, fluoropolymer, glass  
 fiber reinforced plastic, epoxy resin, phenolic resin, faolite, plastics  
 machining, plastics joining, protective coating, graphite filled plastic, pump,  
 fan, centrifuge, polyvinylchloride tube, corrosion resistance

PURPOSE AND COVERAGE: This book presents data on the physical-chemical properties  
 and corrosion resistance of construction plastics and the areas of their  
 application are indicated. Considering the properties of plastics, methods of  
 machining them, applying protective coatings on materials and certain problems  
 of fabricating equipment from plastics are included. The book is intended for  
 workers in the chemical, coke, petroleum, and other industries in which it is  
 necessary to protect equipment from aggressive media.

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L 31814-65

ACCESSION NR AM1044431

2

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Foreword -- 3

Introduction -- 4

Ch. I. Physical-mechanical properties and corrosion resistance of basic types  
of construction plastics -- 6

Ch. II. Machining, welding and gluing of plastics -- 73

Ch. III. Protective coatings on metals -- 94

Ch. IV. Equipment and machines made of plastics -- 140

Bibliography -- 193

SUBMITTED: 15 Nov 63

SUB CODE: MT, CC

NO REF SOV: 046

OTHER: 004

Card 2/2

GANE, S.N. [Hanz, S.N.]; PARKHOMENKO, V.B.

New antifriction and chemically stable materials. Khim.  
prom. [Ukr.] no.4:20-24 O-P'63. (MIRA 17:6)



GANZ, S.N.; KUZNETSOV, I.Ye.

Removal of hydrogen sulfide in hollow even-flow absorbers with a  
centrifuge volumetric sprayer. Koks i khim. no.9:37-42 '63.  
(MIRA 16:9)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Coke-oven gas) (Hydrogen sulfide)

PARKHOMENKO, V.D., inzh.; GANZ, S.N., kand. tekhn. nauk

Effect of temperature on the friction and wear of filled  
fluoroplastic materials. Izv. vys. ucheb. zav.; mashinostr.  
no.9:130-133 '63. (MIRA 17:3)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.

GANZ, S.N., doktor tekhn. nauk; PARKHOMENKO, V.D.

Technology of the manufacture and testing of graphitized fluoroplast  
piston rings. Koks i khim. no.12:50-53 '63. (MIRA 17:1)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.

GANZ, S.N.; KUZNETSOV, I.Ye.

Rate of absorption of nitrogen oxides in a tubular equiflow tower equipped with a centrifugal volume atomizer. Trudy DKHTI no.16:3-15 '63.

Alkaline absorption of nitrogen oxides in a tubular equiflow tower equipped with a centrifugal volume atomizer. Ibid.:17-26  
(MIRA 17:2)

GANZ, S.N.; LUK'YANITSA, A.I.

Thermal dissociation of  $\text{FeSO}_4$  in suspension. Izv.vys.ucheb.zav.;khim.i  
khim.tekh. 6 no.5:811-815 '63. (MIRA 16:12)

1. Dnepropetrovskiy khimiko-tehnologicheskii institut imeni  
F.E.Dzerzhinskogo, kafedra tekhnologii neorganicheskikh veshchestv.

GANZ, S.[Hanz, S.], doktor tekhn. nauk

"Foxtails" will disappear. Nauka i zhyttia 12 no.2:10 P '63.  
(MIRA 16:4)

(Ukraine—Fertilizer industry)

GANZ, S.N.; PARKHOMENKO, V.D.; PETRUNIN, Ye.P.

Device for study of the antifriction properties of materials  
in corrosive media. Zav. lab. 29 no.6:763-764 '63.  
(MIRA 16:6)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.  
(Testing machines) (Friction materials)

GANZ, S.N.; KUZNETSOV, I.Ye.

Rate of absorption of nitrogen oxides in tubular towers with centrifugal volume sprayers. Zhur. prikl. khim. 36 no.8: 1686-1692 Ag '63.

Alkaline absorption of nitrogen oxides in a tubular tower with a centrifugal volume sprayer and evenly distributed flow. 1693-1697 (MIRA 16:11)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.



GANE, S. N.

"Mass transfer with chemical changes under the conditions of highly turbulent flow."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Dnepropetrovsk Chemical-Technological Inst.

L 16328-65 ENG(j)/EWP(e)/ENT(m)/EPF(c)/EPR/ENP(j)/I/EWP(b) Pc-4/Pr-4/  
 Ps-4 JD/WW/RM/JH  
 ACCESSION NR: AP4049183 S/0314/64/000/005/0039/0039

AUTHOR: Ganz, S.N. (Candidate of technical sciences), Glozman, L.P., (Parkhomenko, V. D., Morgun, V.S., (Engineers)

TITLE: Application of packings made of impregnated fluoroplasts in oxygen compressors

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 5, 1964, 39

TOPIC TAGS: packing, fluoroplast packing, carbon impregnated fluoroplast, oxygen compressor

ABSTRACT: In 3RK 10/30 double-action compressors, the required tightness was not provided by graphite-impregnated asbestos or pure fluoroplast-4. A new composition consisting of fluoroplast-4 with 18% colloidal graphite was therefore worked out by the Dnepropetrovskiy khimiko-tehnologicheskii institut (Dnepropetrovsk Chemical-Technological Institute). The plunger packing consists of internal fluoroplast rings; a gasket of the same material prevents gas flow from the packing box to the plunger, and pressure is ensured by the oxygen in the machine. The water is supplied in the same way as for the old packing. The first stage packing does not have a duct for the water supply, which is available for the second stage. The compressor reached a

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L 16328-65

ACCESSION NR: AP4049183

capacity of 800 m<sup>3</sup>/hr. with the new packing. Tests were made with oxygen at a delivery temperature of 70C, sliding speed of 3.75 m/sec, first stage suction pressure of 1.35 and second stage pressure of 7 atm, the delivery pressure being 7 and 30 atm. respectively. Gas leakage did not exceed 5 m<sup>3</sup>/hr. Ta. Service life of the new packing is 2,000 hours. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, IE

NO REF SOV: 000

OTHER: 000

Card 2/2

L 8411-65 EWP(m)/EPF(o)/K/EPR/EWP(j)/T/EWP(q)/EWP(b) Pc-l/Pr-l/Ps-l ASD(m)-3  
 RM/WH/WH/DJ  
 ACCESSION NR: AP4043324 8/0191/64/000/008/0328/0031

AUTHOR: Ganz, S. N.; Parkhomenko, V. D.

TITLE: Physicomechanical antifriction properties of teflon materials

SOURCE: Plasticheskiye massy\*, no. 8, 1964, 28-31

TOPIC TAGS: polytetrafluoroethylene, teflon, filled teflon, molybdenum disulfide filled teflon, boron nitride filled teflon, barium sulfate filled teflon, ground coke filled teflon, channel black filled teflon, graphite filled teflon, aluminum oxide filled teflon, anti-friction composition, antifriction material, teflon wear resistance, self lubricating antifriction material

ABSTRACT: To improve the physicomachanical properties of brand "B" teflon, a self-lubricating antifriction material, the antifriction and other physical and mechanical properties of filled teflon were investigated with the following fillers added to it in quantities of 10 to 45%: molybdenum disulfide (1), boron nitride (2), barium sulfate (3), ground coke (4), channel black (5), type C-1 colloidal

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L 8411-65  
ACCESSION NR: AP4043324

graphite (6), and anhydrous aluminum oxide (7). The materials were molded into parallelepipeds and their wear resistance, impact strength, bending strength, hardness, creep at low temperatures, and water and acid absorption were tested. To obtain a homogeneous mixture, the components were mixed in a colloidal grinder. The wear resistance of all samples increased considerably. Fillers 6, 4, 1, and 2 were the most effective and 7 and 3 the least effective. The hardness of teflon materials with 15-25% filler increased 1.5-1.8 times. Hardness decreased sharply when filler content exceeded 25%. Maximum hardness was obtained with fillers 6, 3, and 2, while fillers 5, 4, and 1 were the least effective. Water and acid absorption by the material was greatest with fillers 7 and 4; no significant changes were observed with the others. Increased acid concentration resulted in greater absorption of materials. The impact strength of the materials decreased with the introduction of fillers. The most noticeable change occurred with fillers 6, 5, 7, and 4. The introduction of fillers 3, 1, and 2 up to 15% did not affect the materials; with content greater than 15% the impact strength decreased sharply. The bending strength decreased with the introduction of 15-20% of

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L 8411-65

ACCESSION NR: AP4043324

fillers 6, 5, 2, and 3. In all cases an increase in filler content resulted in reduced strength. Orig. art. has: 7 tables.

ASSOCIATION: None

SUBMITTED: 00

ATD PRESS: 3101

ENCL: 00

SUB CODE: MT, FP

NO REF SOV: 000

OTHER: 000

Card 3/3

L 14353-65 EWC(j)/EWP(e)/EWT(m)/EPF(c)/EPR/EWP(j)/T/EWP(h) Pc-4/Pt-4/Ps-4  
 ACCESSION NR: AP4048209BSD/ASD(m)-3/AS(mp)-2 S/0191/64/000/011/0037/0039  
 NW/RM/WH

AUTHOR: Ganz, S. N.; Parkhomenko, V. D.

TITLE: A study of the deformation of filled fluoroplast materials

SOURCE: Plasticheskiye massy\*, no. 11, 1964, 37-39

TOPIC TAGS: fluoroplast, molybdenum disulfide, boron nitride, talc, graphite, aluminum oxide, fluoroplast filler, fluoroplast creep, plastic creep/Fluoroplast-4

ABSTRACT: The creep of filled fluoroplasts (samples 20 mm in length and 10 mm in diameter) was determined by an accelerated method on a special apparatus, which is described and illustrated. In addition to powdered fluoroplast-4 type B, the following materials were used as fillers: molybdenum disulfide, boron nitride, ground coke, talc, colloidal graphite and anhydrous aluminum oxide. The filler content of the fluoroplast ranged from 10 to 45%. A study of the relative deformation with time under an instantaneous tensile stress of 75 kg/cm<sup>2</sup> at 18-20C showed that, depending on its nature, the filler decreases the creep of fluoroplast-4 considerably, but that the character of the relative deformation vs. time curves remains analogous for all compositions. After 20-25 hrs., the deformation of the samples varied only slightly. A plot of the relative deformation at

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L 14353-65

ACCESSION NR: AP4048209

100 hrs. and 75 kg/cm<sup>2</sup> against the amount and type of filler shows that the minimum creep is found at a 25-40% filler content. A further increase in the filler content decreases the mechanical strength of the material and leads to its failure. The deformation data are tabulated in detail for graphite-filled fluoroplast. With increasing temperature, the deformation of the samples increases. The sample containing 20% colloidal graphite shows a sharp increase in relative deformation up to 95°C and higher, with increasing time. Since this combination shows the minimum deformation at all temperatures, it is suitable for a study of the quantitative relationships between deformation, compression, filler content and time. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 002

OTHER: 000

Card 2/2





Q117, S.L.; PAVLOVSKIY, A.V.; MLAGINAYA, R.I.

Vapor pressure over liquid ammonium carbonate fertilizers. Izv.  
vys. i cheb. zav.; Khim. i khim. tekh. 7 no.4:619-622 '64.

(PIRA 17:12)

1. Kafedra tekhnologii neorganicheskikh veshchestv Dnepropetrovskogo  
khimico-tekhnologicheskogo instituta im. P.D. Dzerzhinskogo.

GANZ, S.N.; LUK'YANITSA, A.I.; SEREBRYANY, Ya.A.

Intensifying the process of neutralizing pickling solutions  
and acid washing waters. Stal' 23 no. 3:282-283 Mr '64.  
(MIRA 17:5)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.

GANEZ, S.Y.; BUTYK-NITSA, A.I.; BEL'CHINA, L.A.

Production of nitrogeous-ferrous fertilizers from pig  
solution wastes. Zhur.brikh.khin. 37 no.7:1606-1609 JI '67

Simultaneous production of nitrogeous-ferrous fertilizers  
and purification of gases by the removal of nitrogen oxides.  
Ibid.:1609-1611 (MIRA 18:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.

GANZ, S.N.; PARKHOMENKO, V.D.

Antifriction properties of fluoroplast-4 filled with ground coke.  
Plast. massy no.1:40-41 '65. (MIRA 18:4)

L 40997-65 EWT(m)/EPF(o)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WN/RM  
 ACCESSION NR: AP5006560 S/0191/65/000/003/0036/0038

AUTHOR: Ganz, S. N.; Parkhomenko, V. D.

TITLE: Shrinkage of filled 4-polyfluoroethylene resin (Teflon)<sup>15</sup>

SOURCE: Plasticheskiye massy, no. 3, 1965, 36-38

TOPIC TAGS: filled resin, polyfluoroethylene resin, filled fluoroplast, resin shrinkage, graphitized resin / Teflon polymer

ABSTRACT: The article gives tabulated shrinkage values for graphitized Teflon (fluoroplast-4) compressed at 300-320 kg/cm<sup>2</sup> for 2-3 min at a motion rate of 6-7 cm/min. The material was caked at 360-380C, raising the temperature by 75C an hour, for 2 to 6 hrs depending on the size of the object, and cooled for 1.5-2 hrs. down to 150C in the oven and then in air to obtain "nonhardened" products. Tabulated data show that shrinkage across both outer and inner diameters is greater in larger tubular pieces and is less in pieces provided with metallic fixtures or cooled in molds. A diagram of shrinkage vs object diameter is plotted (see Fig. 1 of the Enclosure) which indicates that shrinkage is low (0.8-1.2%) and increases slowly in pieces with diameters up to 40 mm, but climbs sharply in pieces 45-80 mm

Card 1/3

L 40997-65

ACCESSION NR: AP5006560

in diameter, and increases almost linearly in pieces 80-300 mm in diameter. The empirical expression  $G = 20.595 - \frac{29.945}{\lg D}$ , where G is the shrinkage in % and D is a coefficient numerically equal to the object diameter in mm, was used for the calculations. Orig. art. has: 3 tables, 1 figure and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 01

SUB CODE: MT

NO REF SOV: 002

OTHER: 000

Card 2/3

L 54843-55 ENT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WH/RM  
 ACCESSION NR: AP5016883 UR/0374/65/000/003/0057/0062  
 678:539.376

AUTHOR: Ganz, S. N. (Dnepropetrovsk); Parkhomenko, V. D. (Dnepropetrovsk) 30 B

TITLE: Equations for determining the deformation of filled fluorocarbon plastic materials

SOURCE: Mekhanika polimerov, no. 3, 1965, 57-62

TOPIC TAGS: ftoroplast 4, polytetrafluoroethylene, Teflon, colloidal graphite, filled Teflon, Teflon deformation

ABSTRACT: An earlier study (Ganz, S. N., and V. D. Parkhomenko. Plasticheskiye massy, no. 11, 1964) showed that the addition of fillers sharply lowers the deformability of fluorocarbon materials, in particular, that of ftoroplast-4 (polytetrafluoroethylene, Teflon) filled with 17-30% S-1 colloidal graphite (I). In the present study, deformation of I was investigated experimentally. Equations were derived from data which make it possible to calculate the deformation of filled fluorocarbon plastic materials from the filler content, compressive stress, and testing time. The equations hold true for stresses below 200 kg/cm<sup>2</sup>. Orig. art. has: 6 figures. [B0]

Card 1/2



L 54845-65

ACCESSION NR: AP5016883

ASSOCIATION: none

SUBMITTED: 28Oct64

ENCL: 00

SUB CODE: MT

NO REF SOV: 001

OTHER: 000

ATD PRESS: 4031

Card

*Jm*  
2/2

L 61704-65 EWG(j)/EFF(c)/EPR/EWP(j)/EWP(z)/EWT(m)/EWP(i)/T/EWP(b)/EWP(e)/EWP(w)/  
EWA(a)/EWP(t) Pc-l/Pr-l/Ps-l RM/WH/WW/HJW/JD

ACCESSION NR: AF5015965

UR/0314/65/000/006/0030/0033  
678.743:620.178.162 58

AUTHORS: Gans, S. N. (Doctor of technical sciences); Parkhomenko, V. D. (Candidate of technical sciences)

TITLE: Friction and abrasion testing of filled fluoroplastic-4 in aggressive media

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 6, 1965, 30-33

TOPIC TAGS: plastic, fluoropolymer, plastic coating, friction, ductile material/ C  
colloidal graphite, 1Kh18N9T steel, B fluoroplastic 4

ABSTRACT: Friction coefficients and wear of the "B" fluoroplastic-4 (filled with molybdenum-disulfide, boron nitride, pure BaSO<sub>4</sub>, ground coke, carbon black, talcum, colloidal graphite, C-1, and anhydrous aluminum oxide) were determined. Filler contents varied from 10 to 45%. Technology of specimen preparation was described by S. N. Gans and V. D. Parkhomenko (Plasticheskiye massy, 1964, No. 8). Plastic specimens were rubbed against steel 1Kh18N9T in nitric and sulfuric acids of different concentrations in the testing device shown schematically in Fig. 1 on the Enclosure. The loading part of the device consisted of a sleeve (1) containing a spindle (2) with the rotating steel specimen (3); pressure was applied to the

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L 61704-65

ACCESSION NR: AP5015965

specimens through the lever system (7); velocity of the steel specimen rotation was varied by the multistep pulleys (8). The plastic specimen (4) was placed in the bath (5) filled with acid and standing on the thrust- and radial ball-bearings. Acid temperature was regulated by the heat exchanger (6) and was controlled by a thermometer. The measuring part consisted of an elastic plate with sensing elements of strain gauge (9), an amplifier (10) and an oscillograph (11). All measured results were tabulated. Maximum wear was shown by the fluoroplastic-4 without a filler; maximum resistance to sulfuric acid by the coke- and talcum-filled specimens; to nitric acid by those with molybdenum disulfide. Filled plastics gained weight by swelling during friction in acids as shown in Fig. 2 on the Enclosure. Orig. art. has: 5 tables and 2 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 02

SUB CODE: MT

NO REF SOV: 002

OTHER: 000

Card 2/4

L 61704-65

ACCESSION NR: AP5015965

ENCLOSURE: 01

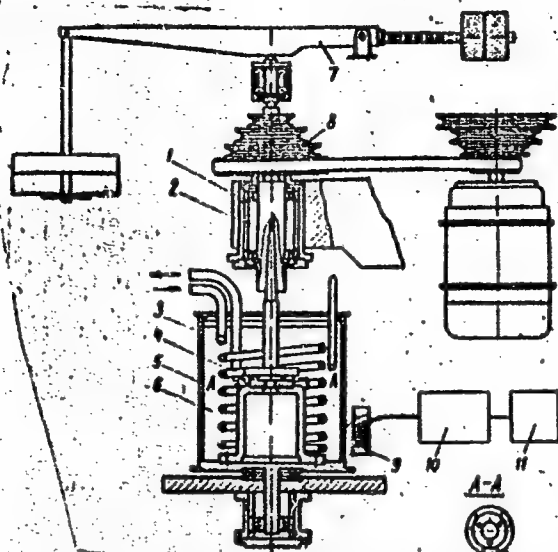


Fig. 1. Scheme for experimental testing device

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L 61704-65

ACCESSION NR: AP5015965

ENCLOSURE: 02

0

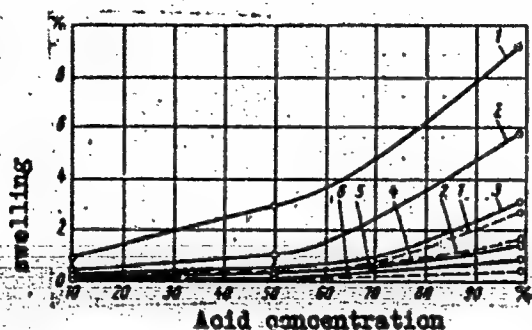


Fig. 2. Effect of acid concentration on swelling of fluoroplastic-4 with fillers: 1- ground coke (4%); 2- Al oxide (2%); 3- colloidal graphite (20%); 4- BaSO<sub>4</sub> (2%); 5- boron nitride (2%); 6- colloidal graphite (20%). — nitric acid; - - - sulfuric acid

Card 4/4

NAME, S.N.; PARKHURST, J.P.

Envelope of filled in receipt 1. 1945.assy no. 2036-38 185.

(MIRA 1886)

L 6387-66

ACC NR: AP5026743

SOURCE CODE: UR/0286/65/000/017/0018/0018

INVENTOR: Ganz, S. N.; Kuznetsov, I. Ye.; Vilesov, G. I.; Dobrovolskiy, Ye. I.;  
Glozman, L. P.; Kuz', N. P.

ORG: none

TITLE: A method for reducing the tendency to caking in ammonium nitrate. Class 16, No. 174195

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 18

TOPIC TAGS: fertilizer, ammonium compound, nitrate, manganese, zinc

ABSTRACT: This Author's Certificate introduces a method for reducing the tendency to caking in ammonium nitrate by treating it with a powdered material. A more effective fertilizer is produced by using a charge containing manganese silt and waste from white zinc shops.

UDC: 631.842.4

SUB CODE: GC/

SUBM DATE: 12Mar64/

ORIG REF: 000/

OTH REF: 000

GC  
Card 1/1

GANZ, S.N., KUZNETSOV, I.Ye.

Calculation of hollow anilox towers equipped with centrifugal atomizers. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 8 no.1:151-154 '65. (MIRA 18:6)

1. Dnepropetrovskiy Khimiko-tekhnologicheskii institut imeni Dzerzhinskogo, kafedra tekhnologii neorganicheskikh veshchestv.



GANZ, S.N.; NESTERENKO, I.P.; VILESOV, G.I.

Adsorption of nitrogen oxides by a pentamethine sorbent.  
Zhur.prikl.khim. 38 no.9:1930-1935 S '65.

(MIRA 18:11)

1. Dnepropetrovskiy khimiko-tekhnologicheskij institut.

GANC, S.N., doktor tekhn.nauk; PARKHOMENKO, V.D., kand.tekhn.nauk; GLOZMAN, L.F.,  
Ussr.

Investigating the antifriction filled polyfluoroethylene materials.  
Vest.mashinostr. 45 no.9:41-44 S '65.

(MIRA 18:10)

GANZ, S.N.; MOROZOV, V.S.; VASHKEVICH, A.M.

Preparation of nitric acid of higher concentration in a closed circulation system. Zhur. prikl. khim. 38 no.5:961-966 My '65.  
(MIRA 18:11)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.

ACC NR: AT7004081 (N) SOURCE CODE: UR/3244/66/000/004/0097/0100

AUTHOR: Parkhomenko, V. D.; Ganz, S. N.; Golubenko, L. A.; Volodin, I. S.

ORG: Dnepropetrovsk Institute of Chemical Technology (Dnepropetrovskiy khimiko-tehnologicheskii institut)

TITLE: Linear expansion and thermal conductivity coefficients of fluoroplastic material

SOURCE: Dnepropetrovsk. Khimiko-tehnologicheskii institut. Khimicheskaya tekhnologiya, no. 4, 1966, 97-100

TOPIC TAGS: thermal conduction, thermal expansion, temperature coefficient, filler, linear expansion, fluoroplastic material

ABSTRACT: Expansion and thermal conductivity with  $\text{BaSO}_4$ ,  $\text{MoS}_2$ , graphite, and coke used as fillers. It was shown that a very complex relationship exists between the linear expansion coefficient and the temperature, type and concentration of a filler. Generally, the increased film concentrations contribute toward lowering of the linear expansion coefficient. Thermal conductivity is determined by the filler.

ACC NR: AT7004081

The increased concentration of the filler in the mixture usually increases the thermal conductivity of the fluoroplastic material. Orig. art. has: 4 figures and 1 table. [AM]

SUB CODE: 11/SUBM DATE: none/ORIG REF: 005/

Cord 2/2

GANZ, Petar, Pukovnik dr.

Personal method for agar reconstitution. Voj. san. pregl., Beogr.  
13 no.7-8: 1956 July-Aug 56.

1. Vojnosanitetski zavod JNA--Sarajevo.  
(AGAR,  
appar. for reconstitution of used agar (Ser))

GANZ, Petar; ABSIC, Bogoljub; MILENKOVIC, Gruja; GIRT, E.; JOAVNOVIC, S.;  
BOSKOVIC, B., Vojnosanitetski zavod.

Control and evaluation of culture media. Voj. san. pregl., Beogr.  
16 no.3:212-216 Mar 59.

1. Katedra farmaceutskih nauka Vojna bolnica Bakteriološka laboratorija.

(CULTURE MEDIA  
control & evaluation (Ser))

FRONEK, Arnost, MUDr.; GANZ, Vilem, MUDr.; HAMMER, Jan, MUDr.;  
PISA, Zbynek, MUDr.; ZEMPLENYI, Tibor, MUDr.; za tech. spoluprace:  
STEIDLOVE, Aloisie; VELATOVE, Anny

Skin resistance in ischemic heart disease. Vnitr. lek., Brno 1  
no.5:333-339 May 55.

1. Ustav pro choroby obehu krevniho v Praze-Krci, reditel prof.  
MUDr. Kl. Weber.

(SKIN, physiology  
resist. in ischemic heart dis.)

(HEART DISEASE  
ischemic, skin resist.)



GANZ, V.; HAMMER, J.; PILAR, J.; PISA, Z.; ZEMPLENYI, T.

Working test with ECG recording during physical effort.  
Vnitr. lek., Brno 1 no.6:423-426 June 55.

1. Ustav pro choroby obehu krevniho, Praha, Krc, reditel  
prof. Dr. Kl. Weber, Ustav pro choroby obehu krevniho,  
Praha-Krc.

(PHYSIOLOGY

working test, ECG eff. of phys. effort.)

(ELECTROCARDIOGRAPHY

in working test, ef. of phys. effort.)

(EXERCISES, effects

phys. effort on ECG in working test.)

FRONEK, A.; GANZ, V.; HAMMER, J.; PISA, Z.; technickou spolupraci:  
VELATOVE, A.; STEDLOVE, A.

Skin temperature in persons with ischemic heart disease.  
Vnitr. lek., Brno 1 no.6:435-437 June 55.

1. Ustav pro choroby obehu krevniho v Praze-Krci, reditel  
prof. Dr. Kl. Weber.

(HEART DISEASE

ischemic, skin temperature.)

(SKIN, in various diseases

heart dis., ischemic, temperature measurement.)

(BODY TEMPERATURE

skin in ischemic heart dis.)

ZEMPLENYI, T.; GANZ, V.; PISA, Z.; technicke spoluprace: VELATOVE, A.

Relation of some U-wave changes to coronary artery diseases and hypertension. Vnitr. lek., Brno 1 no.7:518-527 July 55.

1. Ustav pro choroby obehu krevniho v Praze-Krci, reditel prof. MUDr. Kl. Weber. Ustav pro choroby obehu krevniho v Praze-Krci, Budejovicka 800.

(CORONARY DISEASES, diagnosis

ECG, U wave changes.)

(HYPERTENSION, complications

coronary dis., ECG, U wave changes.)

(ELECTROCARDIOGRAPHY, in various diseases

coronary dis. alone & with hypertension.)

PISA, Z.; GANZ, V.; technickou spolupraci A. Velatove.

The cuff test. Vnitr. lek., Brno 1 no.7:531-533 July 55.

1. Ustav pro choroby obehu krevniho v Praze-Krci, reditel prof.  
MUDr. Kl. Weber. Ustav pro choroby obehu krevniho Praha-Krc,  
Budejovicka 800.

(ANGINA PECTORIS, diagnosis  
cuff test.)

GANZ, V.; PISA, Z.; HAMMER, J.

Orthostatic electrocardiography following peroral admin. of glucose. I. In hypertension. Vnitř. lek., Brno 1 no.11:827-833 Nov 55.

1. Ústav pro choroby oběhu krve v Praze-Krci, ředitel prof. MUDr. Klement Weber. Dr. G., Ústav pro choroby oběhu krve, Praha-Krc, Budejovická 800.

(HYPERTENSION, physiology,

ECG, eff. of oral glucose in orthostatism.)

(GLUCOSE, effects,

on ECG in hypertension, oral admin. in orthostatism.)

(ELECTROCARDIOGRAPHY, in various diseases,

hypertension, eff. of oral glucose in orthostatism.)

*GANZ, VILEM*

HAMMER, Jan; GANZ, Vilem

DH-ergotoxin in therapy of angina pectoris. Cas. lek. cesk. 44  
no.10:257-260 4 Mar 55.

1. Ustav pro choroby obehu krevniho; red. prof. Dr. Kl. Weber.  
(ANGINA PECTORIS, therapy  
dihydrogenated ergot alkaloids)  
(ERGOT ALKALOIDS, ther. use  
dihydrogenate deriv. in angina pectoris)

CZECHOSLOVAKIA/Human and Animal Physiology - Blood. Blood  
Transfusion and Blood Substitutes.

T-3

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84056

Author : Ganz, V., Fronck, A.

Inst :

Title : The Plasma's Kalium Content and Hemodynamic Changes after  
Rapid Blood Transfusions with Low Citrate Concentration  
and High Kalium Concentration in Plasma.

Orig Pub : Casop. lekaru ceskych, 1957, 96, No 13, 381-385.

Abstract : No abstract.

Card 1/1

Ganz, V.

Country : CZECHOSLOVAKIA

T

Category: Human and Animal Physiology. Blood. Blood  
Transfusions and Blood Substitutes

Abs Jour: RZhBiol., No 19, 1958, 88710

Author : Ganz, V.; Frenck, A.

Inst : -

Title : On the Problem of Toxicity of Citrated Blood

Orig Pub: Casop. lekaru ceskych, 1957, 96, No 35, 1105-1113

Abstract: About 30% of blood was withdrawn in dogs and was  
reinfected within 30 minutes with the addition of  
sodium citrate (I) in the experimental animals  
and heparin in the controls. The rate of the in-  
fusion was 6 ml/kg in one minute. Dogs which  
received blood with the addition of 0.75 g of I/

Card : 1/3

T-26



Ganz, V.

Country : CZECHOSLOVAKIA

T

Category: Human and Animal Physiology. Blood. Blood  
Transfusions and Blood Substitutes

Abs Jour: RZhBiol., No 19, 1958, 88710

Author : Ganz, V.; Frenek, A.

Inst : -

Title : On the Problem of Toxicity of Citrated Blood

Orig Pub: Casop. lekaru ceskych, 1957, 96, No 35, 1105-1113

Abstract: About 30% of blood was withdrawn in dogs and was  
reinjectd within 30 minutes with the addition of  
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and heparin in the controls. The rate of the in-  
fusion was 6 ml/kg in one minute. Dogs which  
received blood with the addition of 0.75 g of I/

Card : 1/3

T-26

Country : CZECHOSLOVAKIA

Category: Human and Animal Physiology. Blood. Blood  
Transfusions and Blood Substitutes

T

Abs Jour: RZhBiol., No 19, 1958, 88710

The elevation of venous pressure appeared as a manifestation of heart failure caused by the cardiotoxic action of I. The venous pressure returned to normal within 5-10 minutes following the conclusion of T. T of blood with the addition of 0.25 g of I to 100 ml of blood was free of toxic manifestations. -- I.A. Frolova

Card : 3/3

T-27

GANZ, V.; FRONEK, A.

Measurement of blood flow based on thermodilution. Cesk. fysiол. 7 no.5:  
455-456 Sept 58.

1. Ustav pro choroby obehu krevniho, Praha.  
(BLOOD CIRCULATION, determination,  
thermodilution technic (Cz))

FRONTEK, A.; GANZ, V.

Local thermodilution method of measuring minute volume and circulation rate in the peripheral vessels. Cesk. fysiол. 8 no.3:189 Apr 59.

1. Ustav pro choroby obehu krevního Praha. Predneseno na III. fysiologických dnech v Brně dne 13. 1. 1959.

(BLOOD VOLUME,

minute volume, local thermodilution method of determ. (Cz))

(BLOOD CIRCULATION,

rate, local thermodilution method of determ. (Cz))